

REMARKS

Claims 1-10 and 13-16 are pending in the application. Claim 16 has been added. Support for the amendment may be found in the previous versions of claim 1.

Applicants had previously submitted amendments to claims 1, 3, and 13-15 in an after final amendment which was not entered. Applicants request that the examiner now enter and consider the amendments. Applicants request further that the examiner consider in full the arguments presented in the unentered amendments, many of which are repeated here for convenience purposes.

The Examiner had rejected claims 1-2, 4-5, 7-8, 10, and 13-15 as being unpatentable over Fujita (US 6,035,045). Claim 3 was objected to as being dependant upon a rejected base claim, but noted by the Examiner to be allowable if rewritten in independent form including all of the limitations of the base claim. Applicants thank the examiner for this indication of allowable subject matter. Applicants have rewritten claim 3 in independent form including the limitations from claim 1 except for the limitation as to the amount of HF cut filtering being substantially the same for each of the left and right channels. This limitation is not believed to be necessary to distinguish over the prior art as further indicated by the Examiner's comments as to its allowability (in its previous form) in the office action dated Nov. 28, 2005.

Applicants believe that claim 2 is in allowable form for at least the reasons cited by the examiner in the interview summary dated 8-7-2006.

Applicants wish to thank the Examiner for his cooperation and courtesy in setting up and conducting a telephonic interview on July 25, 2006. Claims 1 and 2 were discussed as was the prior art reference Fujita. No agreement was reached regarding claim 1 but the Examiner expressed optimism that amendment with respect to the method of HF cut filtering or claiming adjustable HF cut filtering with respect to claim 1 would place the application into condition for allowance. Upon reconsideration, the Examiner indicated that claim 2 was allowable in its present form.

Applicants have amended claims 1 and 13-15 to include part of a limitation from claim 2 to the effect that the amount of HF cut filtering decreases as the given direction approaches the forward hemisphere. Support for these amendments may be found throughout the specification, including claim 2, the abstract, and FIGS. 7-8.

Claim Rejections Under 35 U.S.C. §102

The examiner had rejected claims 1-2, 4-5, 7-8, 10, and 13-15 as being unpatentable over Fujita (US 6,035,045). For at least the reasons set forth below, applicants believe that the amendments overcome the rejections.

Fujita teaches a sound image control apparatus that includes a time difference producing unit to generate an interaural time difference and a function processing unit to modify the signal in one channel according to a relative function. The relative function represents for the selected direction a ratio of a left HRTF to a right HRTF. This function is used to process one of the channels. (abstract)

Fujita further teaches that to deal with artifacts when the sound image is localized at specific directions, a correcting means is applied to the mono signal (col. 7, lines 24-50; FIG. 11). The correcting means includes a low pass filter 100 that cuts a preselected high frequency component and then supplies this filtered signal to the level control unit 101. (FIG. 11, col. 18, lines 10-15). The input signal is also provided to the level control unit 102. (col. 18, lines 10-24) with the output signals from the respective level control units provided to the adder 103 to generate the correction signal. (col. 18, lines 10-24) The level control unit 101 provides varying attenuation as shown in FIG. 13 only on the low frequency content. The level control unit 102 provides attenuation of the entire input signal. Hence, there is no direct direction dependant filtering affecting the amount of the high frequency content.

The attenuation of the entire signal is shown on FIG. 13 as the level 6 plot. This plot illustrates that the attenuation provided by Fujita's level control unit 102 is nonexistent at the rear pole (180 degrees) with the maximum attenuation occurring at the start of the forward hemisphere (90 degrees). Hence, even if the filtering of the entire

signal is viewed as filtering of the HF content, Fujita fails to teach or suggest a decrease in HF attenuation as the forward hemisphere is approached. Accordingly, Fujita fails to teach or suggest that the amount of HF cut filtering decreases as the given direction approaches the forward hemisphere as required by claim 1. For at least these reasons, applicants submit that claim 1 is allowable over Fujita.

Independent claims 13-15 have been amended in similar fashion and are submitted to be allowable for the same reasons as discussed above with respect to claim 1. Claims 2, 4-10, and 16 depend from claim 1 and are submitted to be allowable for at least their dependencies from an allowable claim. Moreover, the dependent claims recite additional limitations, and are therefore allowable for these reasons as well. Further discussion of these distinctions is believed unnecessary in light of the distinctions discussed above relative to the independent claims. Claim 3 has been rewritten to independent form and is believed to be allowable as per the Examiner's comments in this Office Action and the previous Office action.

Conclusion

Accordingly, it is submitted that all issues in the Office Action have been addressed, and withdrawal of the rejections is respectfully requested. Applicants believe that this application is in condition for allowance, and respectfully request a prompt passage to issuance. If the Examiner believes that a telephone conference would expedite the prosecution of this application, he is invited to contact the Applicants' undersigned attorney at the telephone number set out below.

Applicants previously submitted an authorization to charge a Deposit Account for the presentation of an additional independent claim in the Aug. 17, 2006 amendment after final that was not entered and hence believe no additional claim fees are due with the filing of this paper. If any fees are due the director is hereby authorized to charge any appropriate fees that may be required for the filing of this paper to Deposit Account No. 503302.

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Respectfully submitted,
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